

Majority

FIG. 1A

	90										100										110										120										
	L	P	L	L	G	P	I	K	D	R	L	D	Y	F	Y	F	Q	G	-	R	E	E	F	F	R	S	R	I	E	K	Y	N	S	T	V	F	R	A	N	M	Majority
81	L	P	G	I	G	P	I	Q	D	R	L	D	Y	F	Y	N	Q	G	-	R	E	E	F	F	K	S	R	L	Q	K	Y	K	S	T	V	Y	R	A	N	M	AOS-Flax
17	I	P	F	F	Q	P	I	K	D	R	L	E	Y	F	Y	G	T	G	G	R	D	E	Y	F	R	S	R	M	Q	K	Y	Q	S	T	V	F	R	A	N	M	AOS-Guayule
63	L	P	I	V	G	P	I	K	D	R	W	D	Y	F	Y	D	Q	G	A	-	E	E	F	F	K	S	R	I	R	K	Y	N	S	T	V	Y	R	V	N	M	AOS-Arabi
77	P	P	M	F	G	A	L	K	D	R	H	D	Y	F	Y	N	Q	G	-	R	E	E	Y	L	K	S	R	M	L	R	Y	E	S	T	V	Y	R	T	N	M	AOS-Melon
43	W	P	L	L	G	P	I	S	D	R	L	D	Y	F	W	F	Q	G	-	P	E	T	F	F	R	K	R	I	E	K	Y	K	S	T	V	F	R	A	N	V	HPL-Guava
27	P	P	L	V	G	P	L	K	D	R	L	D	Y	F	W	F	Q	G	-	P	E	T	F	F	R	S	R	M	A	T	H	K	S	T	V	F	R	T	N	M	HPL-Banana
29	F	P	L	L	G	P	L	W	D	R	L	D	Y	N	W	F	Q	K	-	L	P	D	F	F	S	K	R	V	E	K	Y	N	S	T	V	F	R	T	N	V	HPL-Pepper
22	F	P	F	L	G	P	I	K	D	R	Y	D	Y	F	Y	F	Q	G	-	R	D	E	F	F	R	S	R	I	T	K	Y	N	S	T	V	F	R	A	N	M	HPL-Melon

FIG. 1B

T Y M P S T E L T G G Y R V L S Y L D P S E P D H A Q L K N L L F F L L K R S S Majority

170 180 190 200

158 T Y M P S T E L T G G Y R I L S Y L D P S E P N H T K L K Q L L F N L I K N R R A O S - F l a x
 95 T Y M P S T K L T G A Y R V L S Y L D P S E P R H A Q L K N L L F F M L K N S S A O S - G u a y u l e
 140 T Y M P S T E L T G G Y R I L S Y L D P S E P K H E K L K N L L F F L L K S S R A O S - A r a b i
 154 T Y M P V T E L T G G Y R V L S Y I D P S E P D H A K L K Q L I F F L L K H R R A O S - M e l o n
 122 D F M P S V K Y T G N I R V C A Y L D T S E P Q H A Q V K N F A M D I L K R S S H P L - G u a v a
 106 D Y M P S L S F T G D T R V V V Y L D P S E P D H A R V K S F C L E L L R R G A H P L - B a n a n a
 108 D F M P S V V Y T G D M R V C A Y L D T S E P K H T Q I K N F S L D I L K R S S H P L - P e p p e r
 99 T Y M P S L S F T G N I R T C A Y L D P S E T E H S V L K R L F L S F L A S R H H P L - M e l o n

D R W I P E F X S T L S E L F E T L E S D L A K D G K - A A F N A L - E Q A A F Majority

210 220 230 240

198 D Y V I P E F S S F T D L C E V V E Y D L A T K G K - A A F N D P A E Q A A F A O S - F l a x
 135 N R V I P Q F E T T Y T E L F E G L E A E L A K N G K - A A F N D V G E Q A A F A O S - G u a y u l e
 180 N R I F P E F Q A T Y S E L F D S L E K E A F P L R E - S G F R R F Q R R N R L A O S - A r a b i
 194 D K I M P E F H S T F S E L F E T L E K D L A A A G R - A E Y N A S G E Q A A F A O S - M e l o n
 162 K V W E S E V I S N L D T M W D T I E S S L A K D G N A S V I F P L - Q K F L F H P L - G u a v a
 146 K T M V S S F L S N L D V M L A T I E Q G I A K D G S A G L F G P L - Q K C I F H P L - B a n a n a
 148 K T M V P T L V K E L D T L F G T F E S D L S K S K S A S L L P A L - Q K F L F H P L - P e p p e r
 139 D R F I P L F R S S L S E M F V K L E D K L S E K K I A D F N S I - S D S M S H P L - M e l o n

FIG.1C

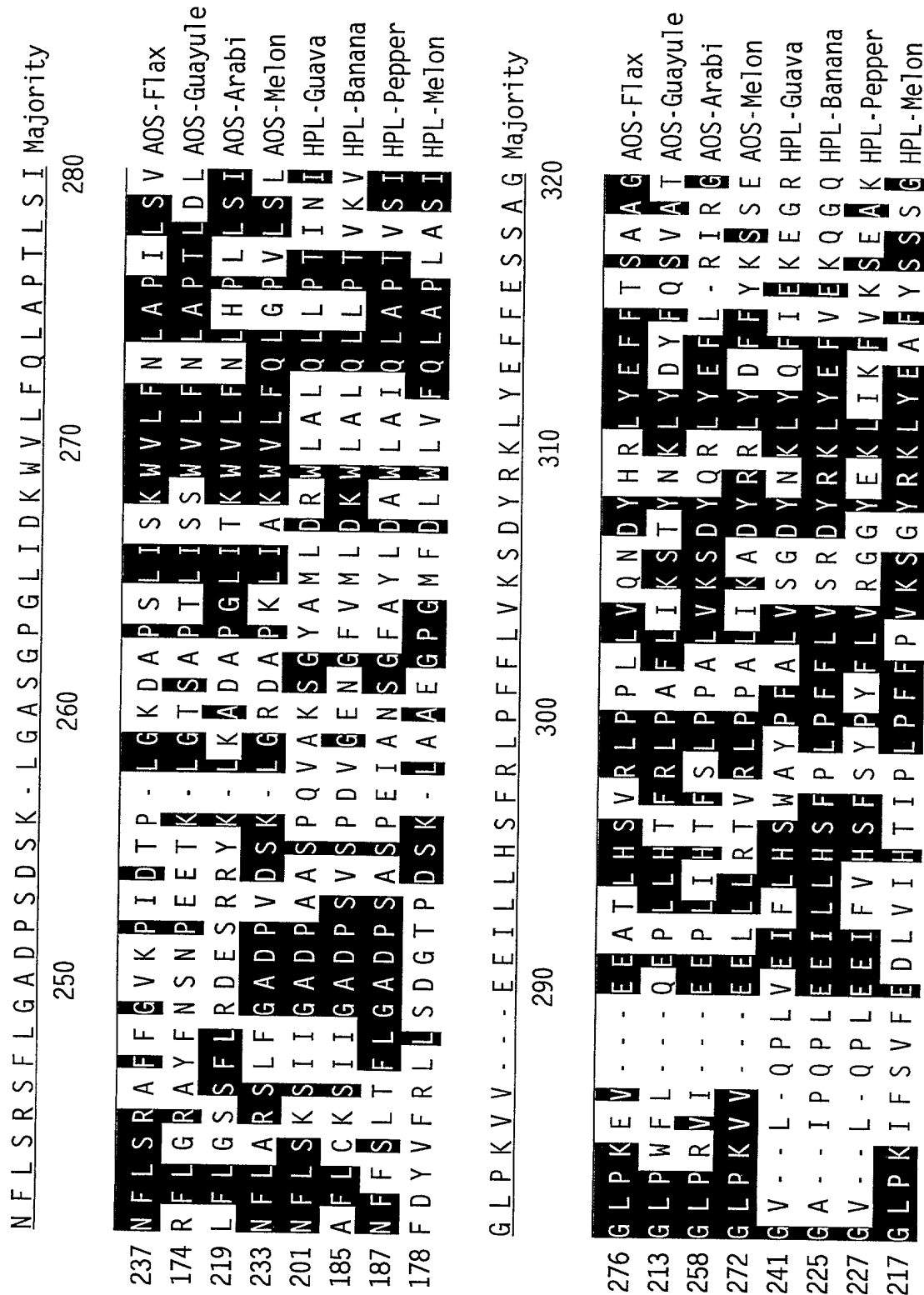


FIG.1D

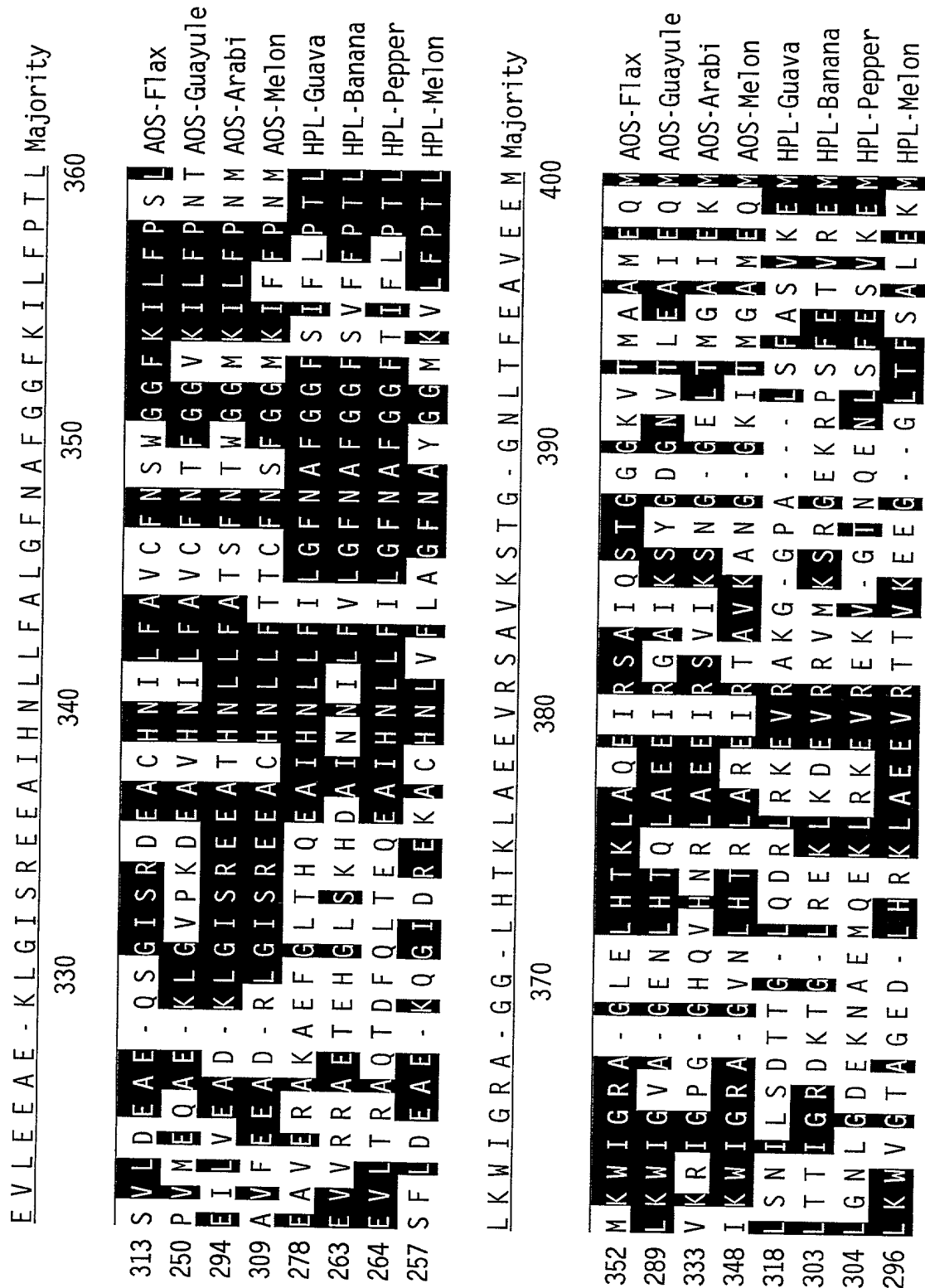


FIG.1E

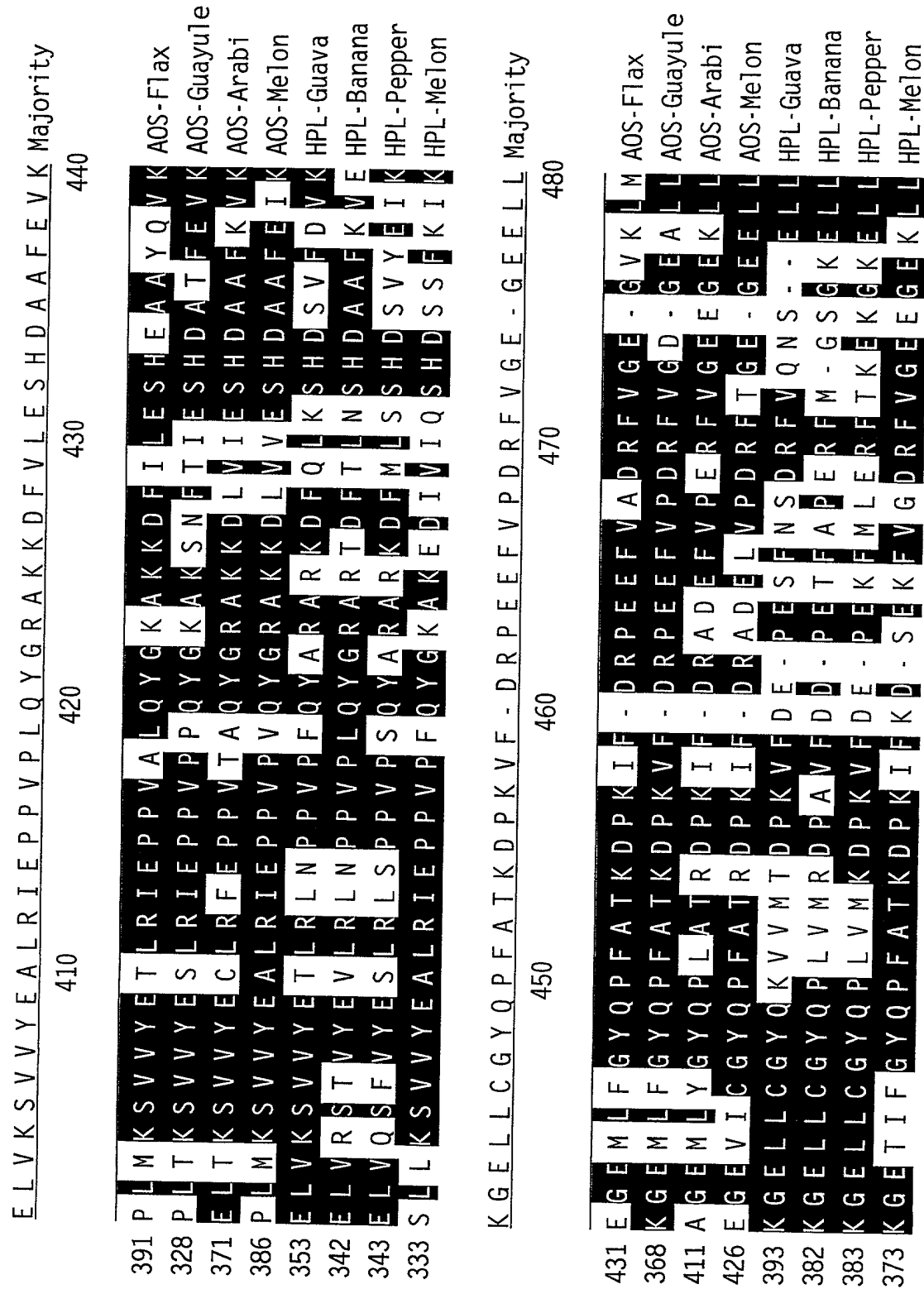
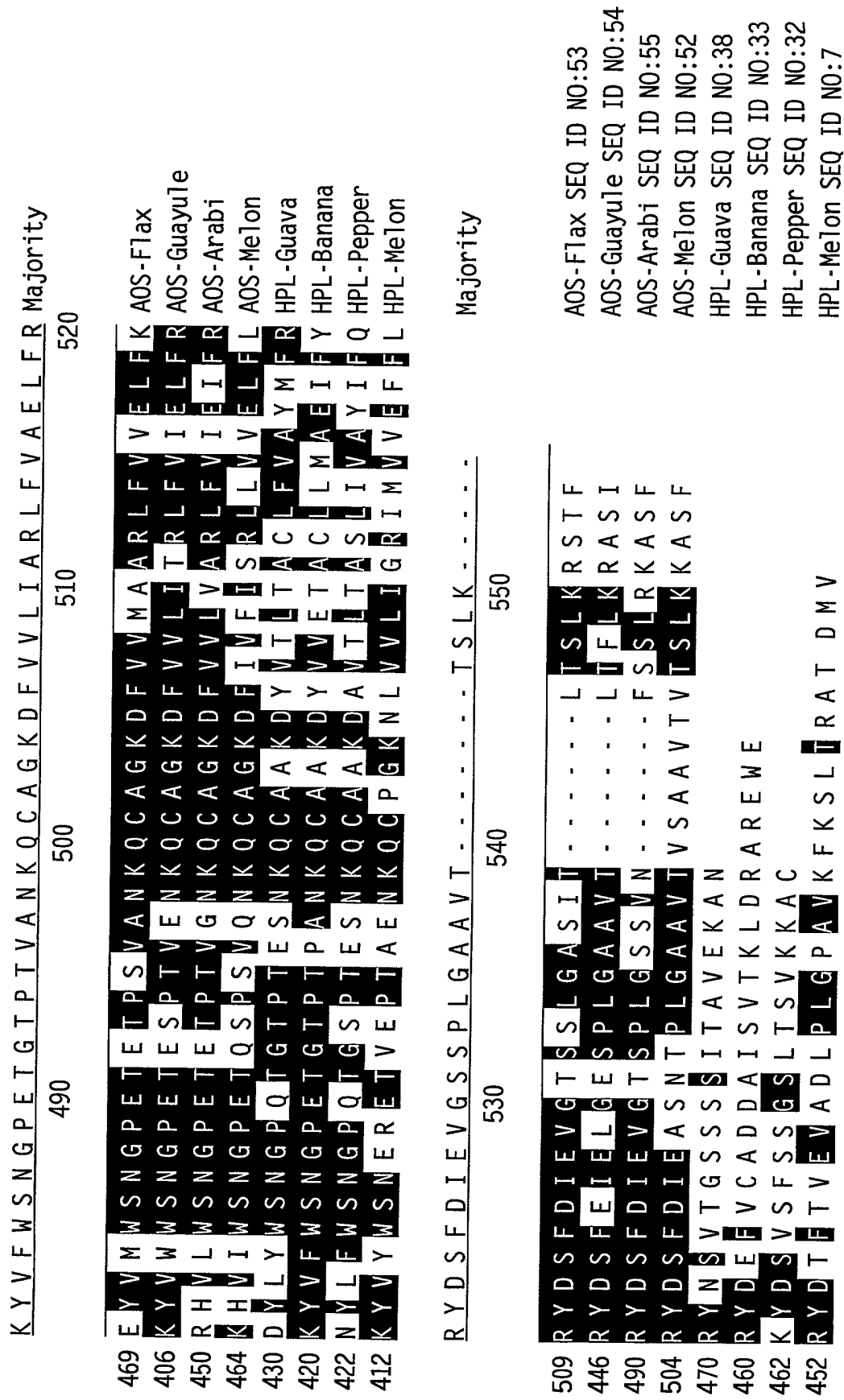


FIG.1F



Decoration 'Decoration #1' : Shade (with solid black) residues that match the Consensus exactly

FIG.1G

CLONING cDNAs OF AOS AND HPL FROM THE MELON (CANTALOUPE)

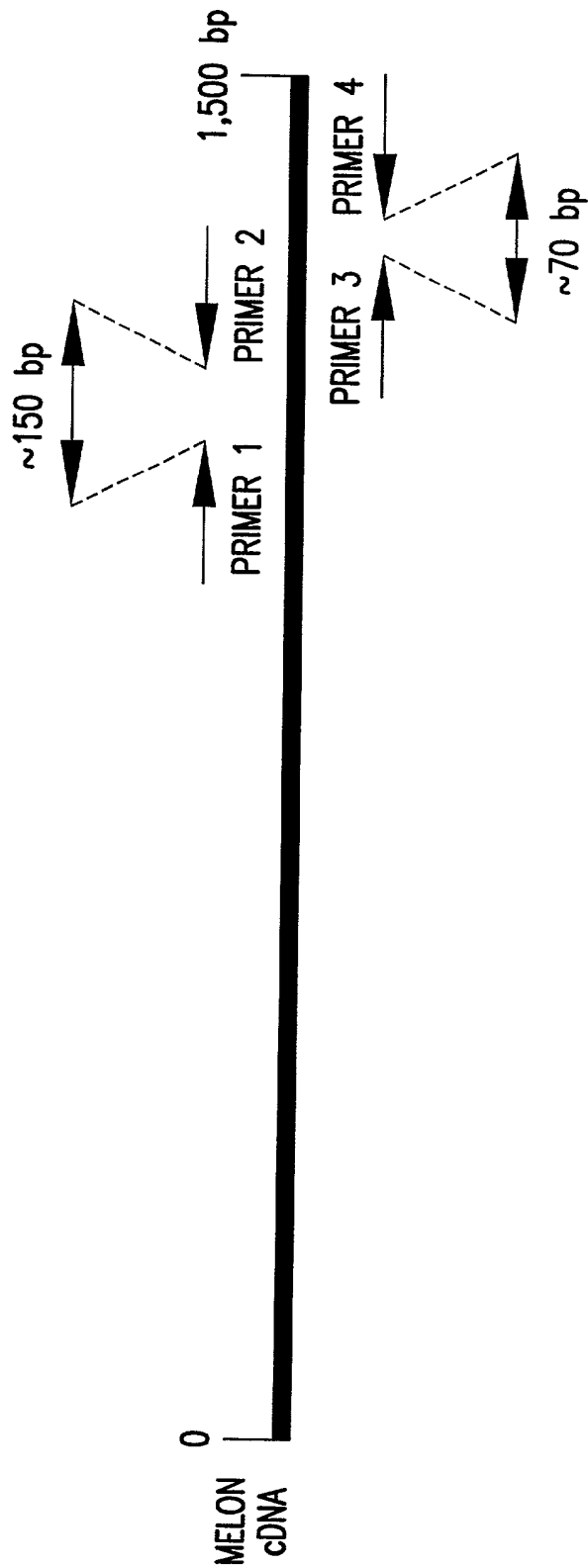


FIG.2A

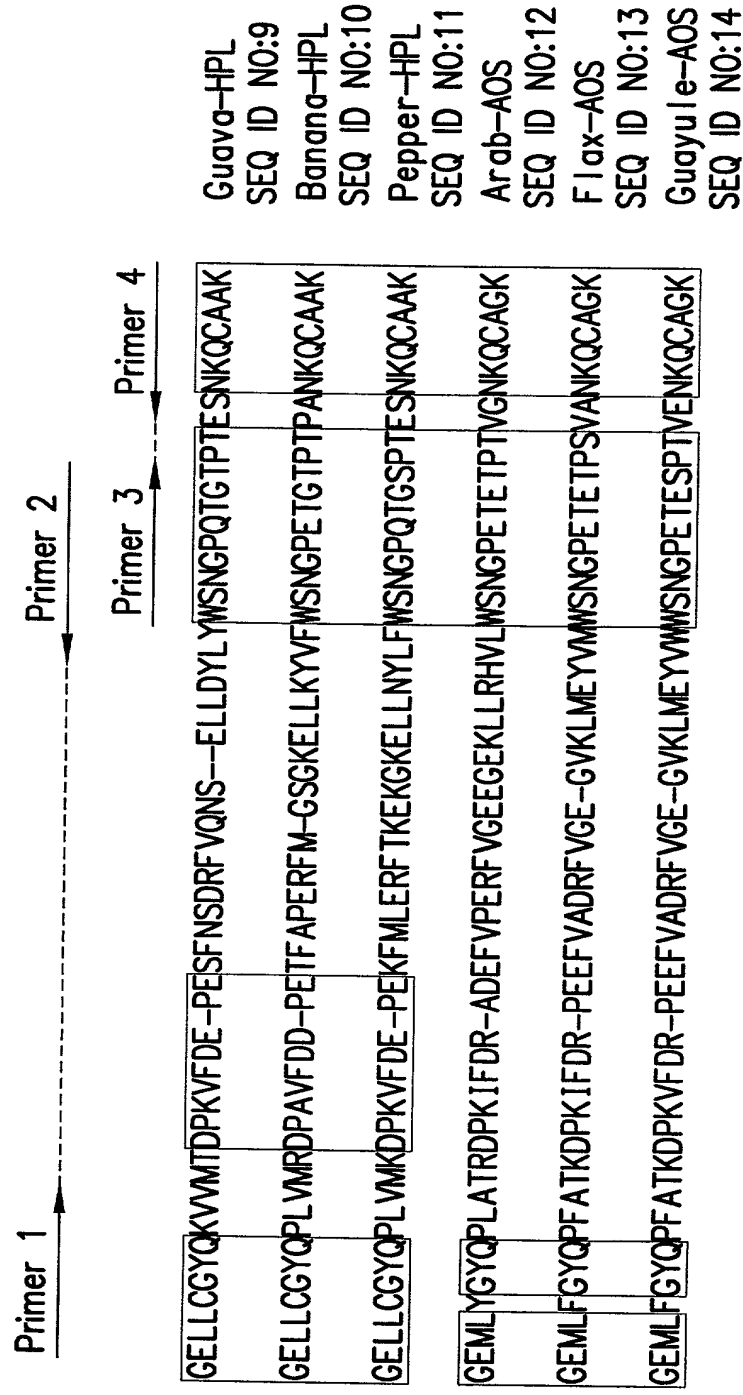


FIG. 2B

Sequences of the degenerate primers

Primer 1:

Primer 1A

G E L L C G Y Q SEQ ID NO:22
GGT GAG TTG CTN TGY GGN TAY CA SEQ ID NO:16
(64-fold degenerate)

Primer 1B

G E L L C G Y SEQ ID NO:23
GGT GAG TTG CTN TGY GGN TA SEQ ID NO:17
(32-fold degenerate)

Primer 2:

W S N G P E T SEQ ID NO:24

Antisense of:-

TGG TCN AAY GGN CCR GAG AC SEQ ID NO:18
(64-fold degenerate)

Primer 3:

Y W S N G P E T SEQ ID NO:25
TAC-TGG-TCN-AAY-GGN-CCN SAR AC SEQ ID NO:19
(32-fold degenerate)

Primer 4:

Primer 4A

N K Q C A A X X SEQ ID NO:26

Antisense of:-

AAY AAR CAR TGY GCN GCT AAG GAC SEQ ID NO:20
(64-fold degenerate)

Primer 4B

K Q C A A X X SEQ ID NO:27

Antisense of:-

AAR CAR TGY GCN GCT AAG GAC SEQ ID NO:21
(32-fold degenerate)

FIG.3

AMINO ACID SEQUENCE ALIGNMENT OF THE 3 DIFFERENT "150 bp" CLONE

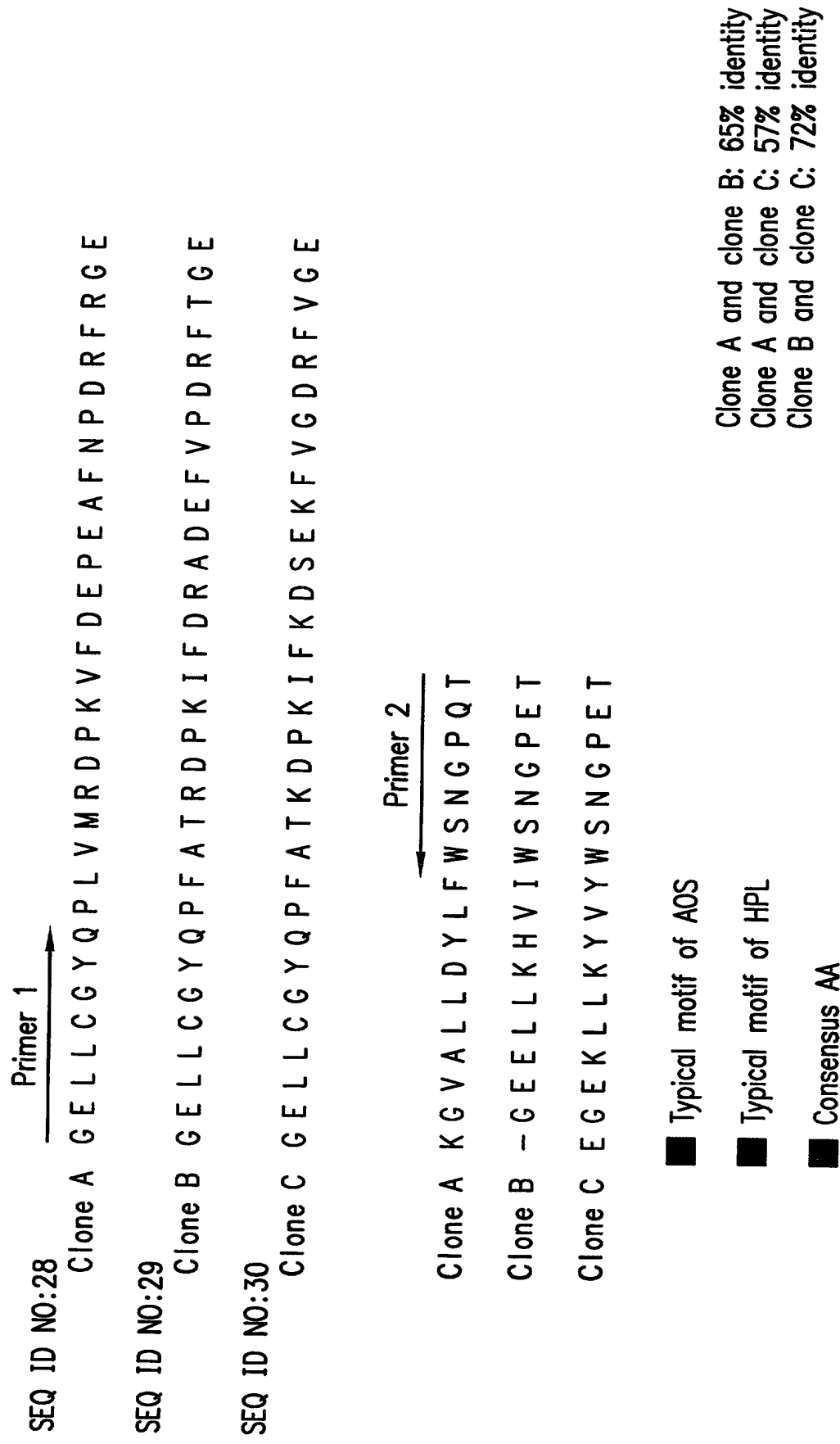


FIG.4

% SIMILARITY BETWEEN THE C-TERMINAL
 PROTEIN SEQUENCES OF CLONES A, B, C (APPROX 100
 AMINO ACIDS) COMPARED TO THE EQUIVALENT REGIONS OF
 PUBLISHED 13-HPL OR AOS SEQUENCES

		13-HPL			AOS		
		GUAVA	PEPPER	BANANA	FLAX	GUAYULE	ARABID
MELON	CLONE A	71	69	62	51	50	51
	CLONE B	35	41	43	64	68	66
	CLONE C	32	34	36	51	56	53

FIG.5

PRODUCTS OF 9-HPL FROM 9-HYDROPEROXYLINOLEIC ACID

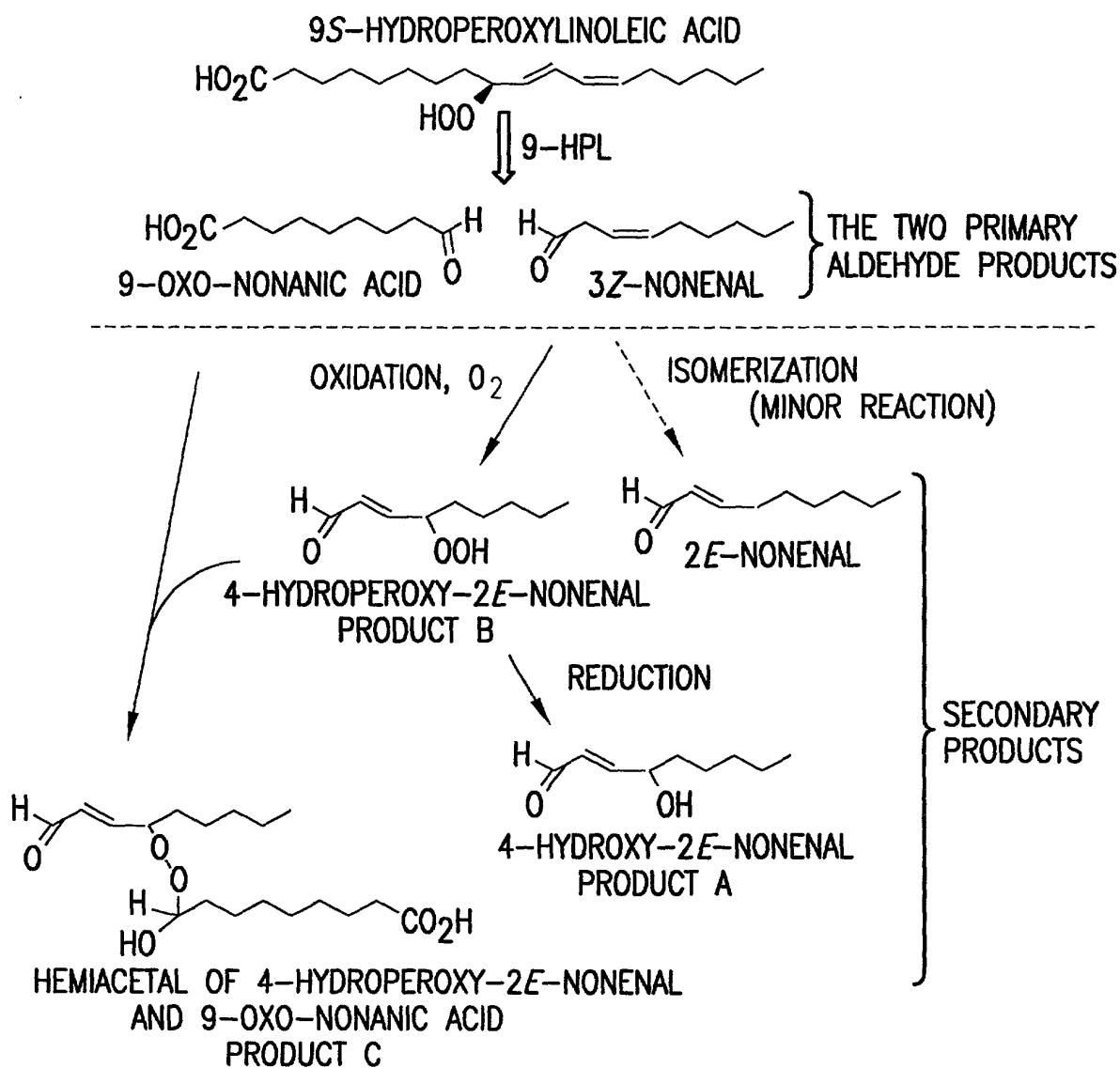


FIG.6